

REMARKS

Claims 1-23 are all the claims presently pending in the application.

It is noted that Applicant specifically states that no amendment to any claim herein, if any, should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Applicant gratefully acknowledges the Examiner's indication on page 19 of the Office Action that claims 6, 10, 16, and 22 are allowable if rewritten in independent format. However, Applicant declines to rewrite these claims at this time, since it is believed that all claims are allowable in view of the prior art currently of record.

As best understood, since the listing of claims (e.g., 6, 10, 16, 18, 19, and 22) in item 7 of the Office Action Summary is not identical to the above-identified listing (e.g., 6, 10, 16, and 22) on page 19 of the rejection itself, claims 11-5, 7-9, 11-15, 17-21, and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sundelin, et al. (U.S. Patent No. 6,144,861), in view of Douzono, et al. (U.S. Patent No. 5,574,983), and further in view of Chheda, et al. (U.S. Patent No. 6,515,975).

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

As described in, for example, claim 1, the claimed invention is directed to a transmit power control method in a CDMA mobile communication system during a selection/ synthesis processing in a Radio Network Controller (RNC) of an up receive from each of connected base transceiver stations (BTSs). A checking step checks whether one or more base transceiver stations (BTSs) are connected. In a calculating step, when a result of the checking step shows that two or more BTSs are connected to a specific mobile station, CH receive SIRs (Signal to Interference Ratios) corresponding to the connected BTSs are selected, using a predetermined selection criterion for selecting CH receive SIRs (Signal to Interference Ratios) corresponding to certain ones of the connected BTSs, and making a calculation by using values of the selected SIRs, and a calculation by using the selected values is made. In a reference value changing step, the value of a reference value Sref is changed according to a result of the calculation.

When the result of the checking step shows that only one BTS is connected, the reference value Sref is set to an upper limit in an upper limit setting step. In a reporting step, the changed reference value Sref is reported to all the connected BTSs. It is possible to decide the reference value Sref in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs.

As explained in the specification, the present invention provides a method to change, at a high speed, the reference SIR used for reference in a high-speed closed loop control of an up link in a transmit power control method in a CDMA mobile communication system.

The conventional methods discussed, beginning at line 20 of page 2 of the specification, for this loop control is based on measurement of the frame error rate. Using this method takes time to achieve an optimal value, resulting in excessive transmit power and user interference.

As explained beginning at line 5 of page 12, the claimed invention, on the other hand, permits a rapid change of the reference SIR, relative to the time required in the conventional methods, thereby reducing these problems of excessive transmit power and interference in the system.

II. THE PRIOR ART REJECTIONS

The Examiner alleges that Sundelin, as modified by Douzono, and then further modified by Chheda, renders obvious the present invention as defined by claims 1-5, 7-9, 11-15, 17-21, and 23.

Applicant again respectfully disagrees and again submits that the rejection currently of record fails to meet the Examiner's initial burden of a *prima facie* rejection.

However, before proceeding with explaining Applicant's position on the shortcomings of the present rejection, Applicant responds to the Examiner's statement in paragraph 6 beginning on page 2 of the Office Action, wherein the Examiner recites the sentence from *In re Keller*, often recited by Examiners who have not first read that case.

The Statement from *In re Keller*

In paragraph 6, the Examiner states: "*In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.*"

In response, Applicant submits that this case involved a fact pattern that is not present in this evaluation.

First, in *Keller*, the Court held that, upon review by the Court, the Examiner had met the initial burden of a *prima facie* obviousness rejection and that the burden, therefore, shifted to the Applicant to rebut. In contrast, Applicant traverses that the rejection currently of record meets the Examiner's initial burden, as explained below.

Second, the sentence from *Keller* upon which the Examiner relies relates to the evidence submitted by Keller as rebuttal. There were three references, Walsh, Keller, and Berkovits, relied upon by the Examiner for the rejection, wherein the Examiner considered that invention was obvious when Walsh was combined with either Keller or Berkovits. In his rebuttal, Keller submitted an affidavit from Dr. Cywinski that addressed only one of these references, the Walsh reference, and did not discuss either of the other two references.

In evaluating the effect of Keller's rebuttal, the *Keller* Court held: "*But one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.*"

In contrast to these facts of *Keller*, in the present evaluation, Applicant first traverses that the Examiner has met the initial burden of a *prima facie* obviousness rejection. There are a number of court holdings, some that are described in MPEP §2143 and elsewhere in the MPEP, that provide guidance as to whether that initial burden has been met.

In this traversal, Applicant has attempted to explain how the rejection currently of record, by taking words out-of-context in either or both the claims and the prior art references, has failed to provide a reasonable objective evaluation of the claimed invention.

Moreover, in the arguments below, Applicant points out how the cited references are not combinable because their respective technique would preclude modification by one or more of the bases described in MPEP §2143, thereby establishing that the rejection currently of record fails to meet the Examiner's initial burden.

Finally, it is submitted that Applicant's responses on the record do not possess the characteristic of Keller's rebuttal wherein only one of the cited references is discussed, to the exclusion of one or more remaining, possibly more critical, references.

Therefore, Applicant respectfully submits that the Examiner might want to read *In re Keller*, 642 F.2d 413; 1981 CCPA LEXIS 262; 208 U.S.P.Q. (BNA) 871, before using this sentence to squelch perfectly legitimate comments about an obviousness rejection.

Judge Rader's Statements in *In re Ruiz*

In contrast to the Examiner's perceived position that *Keller* has eliminated the traditional requirements of a proper obviousness rejection, Applicant brings to the Examiner's attention the words of Judge Rader in the somewhat recent Federal Circuit Court of Appeals holding in *Ruiz v. A.B. Chance Co.*, Federal Cir., No. 03-1333, January 29, 2004:

"In making the assessment of differences, section 103 specifically requires consideration of the claimed invention "as a whole." Inventions typically are new combinations of existing principles or features. Envtl. Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698 (Fed. Cir. 1983) (noting that "virtually all [inventions] are combinations of old elements."). The "as a whole" instruction in title 35 prevents evaluation of the invention part by part. Without this important requirement, an obviousness assessment might break an invention into its component parts (A + B + C), then find a prior art reference containing A, another containing B, and another containing C, and on that basis alone declare the invention obvious. This form of hindsight reasoning, using the invention as a roadmap to find its prior art components, would discount the value of combining various existing features or principles in a new way to achieve a new result - often the very definition of invention."

Applicant submits that the evaluation currently of record clearly reflects this use of the claimed invention as a roadmap and that Judge Rader's words clearly demonstrate that the sentence from *Keller*, upon which Examiners often rely to defuse response to improper combinations of references, must be viewed from the context of the facts in that case, rather than a *carte blanche* declaration that any combination of prior art references are hereinafter proper by reason that *Keller* has eliminated Applicants' ability to attack the combination.

Applicant's Traversals of the Rejections Based on Sundelin

In the latest rejection for all pending claims except 6, 10, 16, and 22, the Examiner relies upon the combination of Sudelin, Douzono, and Chheda, with Sudelin serving as the primary reference.

Applicant respectfully submits that the evaluation currently of record commits exactly the scenario described by Judge Rader in *Ruiz*, using the technique that words are extracted from each reference out of the context of the independent claims and then accumulated, again out-of-context, but this time out-of-context from each of the respective references, until the claimed invention results from the accumulated pile of out-of-context words.

Applicant submits that this technique contradicts the "as a whole" evaluation requirement described by Judge Rader in *Ruiz* and by the Court in *Stratoflex, Inc. v. Aeroquip*

Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983) and in *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983), as discussed in MPEP § 2141.02: "*In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.*"

In contrast to the piecemeal evaluation based on out-of-context words from various references, the present invention is directed to a specific processing technique typically done in the RNC whenever more than one base station is connected to a mobile station. This specific processing is called "selection/synthesis processing" and, as mentioned at lines 7-10 of page 2 of the Application, has to be considered to be a term of art that cannot be ignored in the prior art evaluation. With the possible exception of secondary reference Chheda, the cited references are not engaging in this specific processing executed in the RNC.

In the evaluation currently of record, the Examiner attempts to reconstruct some of the description of the independent claim language, although not very successfully as Applicant detailed in the previous Amendment Under 37 CFR §1.116 filed on June 24, 2005, since neither the primary reference Sundelin nor the secondary reference Douzono is engaged in this specific type of processing nor involves processing in the RNC, as will shortly be discussed. Indeed, the Examiner concedes that Sundelin fails to satisfy the final claim limitation of various independent claims in which the selection/synthesis processing is involved and attempts to use secondary reference Douzono to overcome this basic deficiency of Sundelin.

Although Applicant will explain shortly how Douzono also fails to use selection/synthesis processing, the more important aspect of this evaluation is the fact that the principle of operation of primary reference Sundelin would have to change in order to incorporate selection/synthesis processing, since the processing described in Sundelin would have to be shifted to the RNC, would have to address an entirely different parameter from that which is the object of that invention, and would have to involve a distribution to the base stations of the result of the revised processing. Such change in principle of operation is precluded in an obviousness evaluation by the Court in *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA, 1959), as discussed in MPEP §2143.01: "*If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.*"

Applicant submits that this improper change of principle of operation inherently occurs in an evaluation in which words are taken out of context from various references and then thrown back together to result into an assembly of words that no longer describe any of the references and that this change of principle of operation is one example of failing to evaluate the present invention "as a whole", as required by *Ruiz*, *Stratoflex*, and *Schenck*.

Applicant submits, as was attempted to be explained in the previous amendment, that a key underlying problem in attempting to combine Sundelin, Douzono, and Chheda is that each of these references are teaching a different type of control process. In attempting to take wording out of the context of its respective specific control process, the evaluation currently of record comes up with a new procedure that clearly is not described in any of the three references.

Perhaps most significant is the claim limitation describing selection/synthesis processing. This term of art means, among other things, that the processing is being executed in the RNC and the result is passed down to each base station as a target SIR for that base station. Each base station will then use its closed-loop power control mechanism with the mobile station to control its transmission power. The present invention provides a mechanism that greatly shortens calculations of this process by using an algorithm based simply on the number of stations currently connected to a specific mobile station, thereby shortcutting the conventional method based on the frame error rate (FER), as explained in the Application beginning on line 20 on page 2.

In contrast, Sundelin addresses a process of controlling transmission power between two base stations as hand-off proceeds. Although lines 13-14 of column 5 refer to the RNC as directing mobile station calls via the appropriate base station(s), as further described in the paragraph beginning at line 60 of column 5, and lines 62-64 of column 6 describes that the RNC is involved in calculating a "target SIR update", that calculation of target SIR is not the subject of the technique in Sundelin, as can be clearly seen by the description beginning at line 65 of column 6, in conjunction with the components shown in Figure 4 as being in the base stations, not the RNC. Thus, the calculations done in Sundelin are done by each base station and are not related to any "selection/synthesis processing" being done in the RNC, even if such processing is being done in the RNC, although not mentioned, in this reference.

Figure 7 of Sundelin shows how the two base stations respectively change transmission power as the mobile station moves toward a new station and the technique of calculation is shown in Figure 9 and is executed in each of the two affected base stations, as

described in the paragraph beginning at line 32 of column 9. It clearly does not involve a calculation of a target SIR by the RNC that the RNC then broadcasts to the two base stations.

Therefore, for this reason alone, Applicant submits that the words taken out of context in Sundelin have no reasonable application to an independent claim specifically oriented to "selection/synthesis processing" executed in the RNC and that such attempt to convert the processing occurring in Sundelin to conform to the type of processing being done in the RNC for an entirely different purpose clearly changes the principle of operation of this primary reference Sundelin.

Likewise, Applicant submits that secondary reference Douzono also does not relate to "selection/synthesis processing", as executed in the RNC and whose result is then broadcast to the appropriate base stations, as can be clearly demonstrated in the description in lines 17-29 of column 8. Rather, the base station itself merely sets its transmission power in accordance with the number of base stations attached to the mobile station. This mechanism in each base station is not based on receiving a target SIR from the RNC, as calculated during "selection/synthesis processing" in the RNC and broadcast to the base station from the RNC.

Finally, Applicant submits that the only reference in the rejection currently of record that is reasonably related to a processing that is even arguably executed above the lowest level of a base station system hierarchy is secondary reference Chheda.

However, even this processing in Chheda provides a method quite different from that described by the plain meaning of the language in the independent claims, since it teaches that all base stations connected to the mobile station during a soft handoff should have the same transmission power (e.g., step 60 in Figure 2), as determined by detecting which base stations involved in the handoff are outside a threshold amount of deviation of output power from the base station having the best Eb/No (e.g., steps 54 and 56). This technique of imposing a same transmission power in various base stations is a different concept from that of the present invention, wherein a reference value Sref is broadcast to the base stations.

Specifically, unlike the result of Chheda, in the method of the present invention, each base station will still control its own transmission power in accordance with its closed power control loop with the mobile station and the unique irregularities in the transmission path between the mobile station and the respective base stations. The present invention provides a rapid method to update the Sref that traditionally is provided by the "selection/synthesis processing" in the RNC. Simply imposing a different transmission power level to all base

stations is a different mechanism and is not equivalent to the mechanism of providing a more rapidly calculated Sref of an existing "selection/synthesis processing".

A second mechanism in Chheda of changing the step size of FPC and RPC, as described in the paragraph beginning at line 56 of column 6 and a third mechanism of directly adjusting FPC and RPC are likewise entirely different mechanisms from that of changing Sref by modifying the normal "selection/synthesis processing" based upon the number of attached stations.

Therefore, Applicant submits that, absent the impermissible hindsight of re-assembling words taken out-of-context, even if Sundelin, Douzono, and Chheda were to be combined, the result would still fail to satisfy the plain meaning of the combination of elements described in the independent claims, as that language would be interpreted by one having ordinary skill in the art, even if some the different methods might be similar in words or in some effects.

Hence, turning to the clear language of the claims, there is no teaching or suggestion of: "A transmit power control method in a Code Division Multiple Access (CDMA) mobile communication system during a selection/synthesis processing in a Radio Network Controller (RNC) of an up receive from each of base transceiver stations (BTSS) connected thereto, said method comprising: ... a calculating step of, when a result of the checking step shows that two or more BTSSs are connected, using a predetermined selection criterion for selecting CH receive SIRs (Signal to Interference Ratios) corresponding to certain ones of the connected BTSSs, and making a calculation by using values of the selected SIRs; a reference value changing step of changing a value of a reference value Sref according to a result of the calculation; an upper limit setting step of, when the result of the checking step shows that only one BTSS is connected, setting the reference value Sref to an upper limit; and a reporting step of reporting the changed reference value Sref to all the connected BTSSs, wherein it is possible to decide the reference value Sref in response to a variation in a selection/synthesis gain due to an increase or a decrease of the number of connected BTSSs", as required by independent claim 1.

Relative to independent claim 3, there additionally is no teaching or suggestion of: "... said calculation made by using the selected value in the calculating step-comprises: one of selecting a maximum value Smax and a second largest value Sscd from among the CH receive SIRs corresponding to the connected BTSSs and selecting the maximum value Smax from among the CH receive SIRs corresponding to the connected BTSSs; and one of

calculating a difference (X) between the Smax and the Sscd and calculating a number (Nbts) of BTSs in which a difference between the Smax and the receive SIR becomes a predetermined value T2 or less”.

Relative to independent claim 7, there is no teaching or suggestion of: “.... said reference value changing step comprises one of changing the reference value Sref to a value according to the difference (X) and changing the reference value Sref to a value according to the number (Nbts)”.

Relative to independent claim 11, there is no teaching or suggestion of: “...in a radio network controller (RNC) interconnected to a plurality of Base Transceiver Stations (BTSs): selecting CH receive SIRs (Signal to Interference Ratios) corresponding to BTSs connected to a specific Mobile Station (MS), said selecting based on a selection criterion which defines which of the connected BTs will be involved; calculating a selection/synthesis gain from said selected SIRs; and using said selection/synthesis gain to calculate a reference value Sref for an outer loop control of said transmit power”.

Relative to independent claim 20, there is no teaching or suggestion of: “An apparatus serving as a radio network controller (RNC) in a Code Division Multiple Access (CDMA) mobile communication system, said apparatus comprising: ... a selection/synthesis processing portion to select ones of said SIRs to calculate a selection/synthesis gain, a predetermined selection criterion being used to define which SIRs of said connected BTSs are to be selected for calculating.”

Relative to dependent claims 4, 5, 8, and 9, none of the references satisfy the plain meaning of the language of these claims.

Applicant’s Previous Statements on the Specific Technical Differences of Sundelin, Douzono, and Chheda

For purpose of Appeal, Applicant again submits the following additional specific technical comments related to the rejections currently of record in the latest Office Action, and as directly related to the discussion above that the rejection currently of record is impermissibly taking words out of context from both the plain meaning of the claim language and from the respectively different references.

Concerning paragraph 10, beginning on page 4 of the Office Action, directed to claims 1 and 11-13:

- Relative to the step of checking whether one or more base transceiver stations (BTSSs) are connected, in the corresponding part of Sundelin, a method of selecting a base station for soft handover is disclosed. The method is that among the base stations presently not communicating with terminals, a base station with which good communication quality is likely to be maintained is selected. In contrast, the present invention selects a base station which contributes towards diversity gain among base stations which are connected to RNCs over soft handover.
- Relative to the step of selecting CH receive SIRs and making a calculation, in the corresponding part of the Sundelin reference, general methods of Closed Loop Power Control and Outer Loop Power Control are disclosed. Namely, a method of changing an object SIR is not explained. On the other hand, the present invention discloses a method of obtaining an object SIR based on received SIRs at the base stations which is especially contributing toward diversity gain.
- Relative to the step of setting the reference value S_{ref} to an upper limit, in the corresponding part of Sundelin, an upper limit value of downlink transmission power at closed loop power control is mentioned. The present invention, on the other hand, sets a value to be an upper limit of the calculation result on the object SIR calculation process.
- Relative to the step of reporting the changed reference value S_{ref} to all the connected BTSSs, the corresponding part of Sundelin does not explicitly mention that an object SIR is reported to all the connected BTSSs. Sundelin merely discloses that when multiple base stations are in a connected state, an RNC is involved in Outer Loop Power Control. However, the reporting of the object SIR to all the base stations is not a material element in the present invention.
- Relative to the Examiner's indication that to change a reference value according to the number of base stations is obvious over Sundelin and Douzono, Applicant submits the following. The change of an object SIR may be read from Sundelin but the change of the object SIR based on the number of base stations is not perceived from Douzono. The mere concept that the number of connected base stations is used for the SIR includes such

- base stations that do not contribute toward diversity gain in any significant degree. In contrast, the present invention selects base stations that significantly contribute toward diversity gain and, thus, can cure this defect.
- Relative to the Examiner's indication that to set the reference value S_{ref} to an upper limit when only one BTS is connected is obvious over Sundelin and Douzono, Applicant submits the following. When only the number of connected base stations is considered in order to decide the object SIR, such base stations that do not so much contribute toward diversity gain are also included. In contrast, the present invention picks up base station that significantly contribute toward diversity gain. Consequently, even when there are connected base stations and only one base station contributes toward the diversity gain, the object SIR is set to an upper limit.
 - Relative to the Examiner's indication that to decide the reference value S_{ref} in response to a variation in selection/synthesis gain due to an increase or a decrease of the number of connected BTSs is obvious, Applicant submits the following. Douzono does not consider the situation where selection/synthesis gain does not increase even when the number of connected base stations increases. For example, when a terminal with intense transmission power moves into an area of a certain base station, reception quality at the base station deteriorates and the base station may not contribute toward the selection/synthesis gain. The present invention simplifies the selection of the base stations that contribute toward the selection/synthesis gain, for example, by electing the upper two base stations showing good reception SIRs. Douzono does not contrive such a method.

Concerning paragraph 12, beginning on page 7 of the Office Action, directed to claim 3, Applicant submits the following:

- Relative to the Examiner's indication that to find the maximum value S_{max} from among the CH in order to determine how the power adjustments should be made is obvious, the corresponding part of Sundelin discloses that an object SIR is changed along Outer Loop Power Control, and then power of a base station near a terminal is decreased and power of a base station far from a terminal is increased. However, in contrast, the present invention shows criteria where, for example, an object SIR is changed in response to a

difference between the top two receive SIRs.

- Relative to the Examiner's indication that the step of calculating a difference (X) between the S_{max} and S_{scd} and the step of calculating the number of BTSs in which a difference between the S_{max} and the receiver SIR becomes a predetermined value T2 or less is obvious, the cited references do not disclose an advantage of the present invention that the fluctuation of an object SIR is rapidly converged.

Concerning paragraphs 13 and 14, relative to claims 4 and 5, on page 11 of the Office Action, Applicant submits the following:

- The corresponding part of Douzono may disclose that quality improves when a plurality of base stations are connected, it is not apparent whether one of the base stations should have a higher object SIR.
- The corresponding part of Sundelin (col. 2, line 48 – col. 3, line 60) discloses that downlink power is determined from an uplink receive SIR and a terminal's request for power control. In this way, downlink power of a nearer base station swiftly goes up and that of a farther base station swiftly goes down along with Outer Loop Power Control. The present invention improves Outer Loop Power Control where, with a difference of uplink receive SIRs, a downlink object SIR is changed instead of downlink power.

Concerning paragraph 18 on page 16 of the Office Action relative to claim 14, Applicant submits the following:

- The corresponding part of Sundelin (col. 2, line 48 – col. 3, line 60) is already referred to above. Further, Sundelin at col. 7, lines 16-43, discloses that downlink power is controlled based on an uplink receive SIR. Sundelin uses the uplink receive SIR for the downlink power control, not for a downlink object SIR. Therefore, the present invention and Sundelin differ from each other.
- Moreover, the corresponding part of Chheda discloses that power of a base station is reduced when the base station with the maximum E_b/N_o communicates with intense power. The present invention compares uplink receive SIRs, and does not compare downlink power.

Concerning paragraph 19 on page 17 of the Office Action related to claim 15, control of transmission power in Chheda and control of an object SIR in the present invention are

essentially different from each other.

Therefore, Applicant submits that there are elements of the claimed invention that are not taught or suggested by Sundelin, Douzono, or Chheba, and the Examiner is respectfully requested to withdraw these rejections.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-23, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

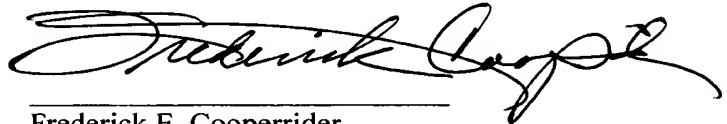
Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: _____

1/26/06



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